

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/067,208

04/28/98

HOWARD

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P-7860

THOMAS F WOODS
MEDTRONIC INC
7000 CENTRAL AVENUE NE
MINNEAPOLIS MN 55432

IM62/1006

EXAMINER

CREPEAU, J

ART UNIT

PAPER NUMBER

1745

DATE MAILED:

10/06/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/067,208

Applicant(s)
Howard

Examiner
Jonathan Crepeau

Group Art Unit
1745

☒ Responsive to communication(s) filed on Apr 28, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-90 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) 1-5, 9-14, 18, 37-41, 45-50, 54-59, 62-68, 70, 72-77, 79, and 81 is/are allowed.

☒ Claim(s) 6-8, 15-17, 19-36, 42-44, 51-53, 60, 61, 69, 71, 78, 80, and 82-90 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration in a continuation-in-part application filed under the conditions specified in 35 U.S.C. 120 which discloses and claims subject matter in addition to that disclosed in the prior copending application, acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

The new declaration *must* list all those applications of which the present application is a continuation-in-part.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 6-8, 15-17, 24-26, 33-35, 42-44, 51-53, 60, 61, 69, 71, 78, 80, 87, and 89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The

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claims recite the limitations "the solid reactive material", "the binder material", or "the conductivity enhancer". There is insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al (U.S. Pat. 5,458,997) in view of Moses et al (U.S. Pat. 4,937,154).

Crespi et al teach an electrode assembly having two substantially straight sides comprising spirally-wound anode and cathode assemblies (Fig. 1). At the bottom of column 2 and the top of column 3, the following elements are taught: active material layers (cathode: silver vanadium oxide + PTFE + carbon black; anode: Li metal) pressed onto current collectors (made of nickel or titanium), tabs on the edges of the collectors, and a separator.

Crespi et al do not explicitly teach that the anode current collector is shorter in length than the cathode current collector.

Moses et al teach a spirally-wound cell in which the cathode is longer than the anode in column 2, line 25.

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Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because Moses et al provide motivation for the artisan to use such a configuration. As taught by Moses throughout the patent, a longer cathode provides improved safety in such occurrences as dendrite formation and voltage reversal. Although it is not explicitly taught that the cathode *current collector* is longer, it would still be within the skill of the art to ascertain this from Moses and apply it to Crespi.

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al in view of Moses et al as applied to claims 19-26 above, and further in view of Kelm et al (U.S. Pat. 5,486,215).

The combination of Crespi and Moses does not disclose a separator covering the anode assembly and having an opening through which the first connector tab projects.

Kelm teaches this configuration in column 4, lines 60-66.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the patent of Kelm shows that these types of separators are known in the art and are used in cells almost identical in structure to Crespi. Thus, the artisan would see from Kelm that this type of separator would be an advantageous modification of the battery of Crespi because it provides coverage of both sides of the anode as well as a slot for the tab to go through.

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7. Claims 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al in view of West (U.S. Pat. 4,010,405).

Crespi et al is applied for the reasons stated in paragraph 5 above.

Crespi et al do not explicitly teach that the anode current collector is shorter in height than the cathode current collector.

West teaches a capacitor in which the cathode foil is wider than the anode foil in column 2, line 47.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would see from the patent of West that having a wider cathode current collector would provide advantages such as the ability to force-fit the electrode assembly within the can to prevent jostling and movement of the assembly. The artisan, knowing that the battery of Crespi is used in cardiac defibrillators, would see that this would be an especially important feature and would thus be motivated to incorporate it into the battery of Crespi.

8. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al in view of West as applied to claims 28-35 above, and further in view of Kelm et al (U.S. Pat. 5,486,215).

The combination of Crespi and West does not disclose a separator covering the anode assembly and having an opening through which the first connector tab projects.

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Kelm teaches this configuration in column 4, lines 60-66.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the patent of Kelm shows that these types of separators are known in the art and are used in cells almost identical in structure to Crespi. Thus, the artisan would see from Kelm that this type of separator would be an advantageous modification of the battery of Crespi because it provides coverage of both sides of the anode as well as a slot for the tab to go through.

9. Claims 82-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al in view of Moses et al as applied to claims 19-26 above, and further in view of West.

The combination of Crespi and Moses does not explicitly teach that the anode current collector is shorter in height than the cathode current collector.

West teaches a capacitor in which the cathode foil is wider than the anode foil in column 2, line 47.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because as explained above, the artisan would see from the patent of West that having a wider cathode current collector would provide the advantage of preventing movement of the electrode assembly.

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10. Claim 90 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crespi et al in view of Moses et al in further view of West, as applied to claims 82-89 above, and further in view of Kelm et al (U.S. Pat. 5,486,215).

The combination of Crespi, Moses, and West does not disclose a separator covering the anode assembly and having an opening through which the first connector tab projects.

Kelm teaches this configuration in column 4, lines 60-66.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the patent of Kelm shows that these types of separators are known in the art and are used in cells almost identical in structure to Crespi. Thus, the artisan would see from Kelm that this type of separator would be an advantageous modification of the battery of Crespi because it provides coverage of both sides of the anode as well as a slot for the tab to go through.

Allowable Subject Matter

11. Claims 1-5, 9-14, 18, 37-41, 45-50, 54-59, 62-68, 70, 72-77, 79, and 81 are allowed.

12. Claims 6-8, 15-17, 42-44, 51-53, 60, 61, 69, 71, 78, and 80 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

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The limitations recited in claims 1, 10, 37, 46, 55, 64, and 73 (the strip of alkali metal being both longer and wider than the anode current collector) appear to not be anticipated or rendered obvious by the prior art. Numerous references teach that making the active material smaller than the current collector is advantageous. Therefore, because the art teaches away from the claimed limitations, the claims appear allowable over the prior art.

Conclusion

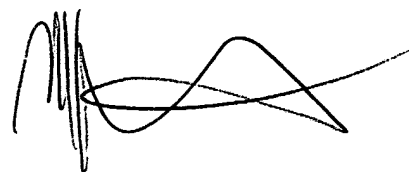
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (703) 305-0051. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maria Nuzzolillo, can be reached at (703) 305-3776 from Monday-Thursday. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900.

Documents may be faxed to (703) 306-3429. The official fax number for documents of extreme importance is (703) 305-3599 (it will take longer to receive documents faxed to this number; therefore the first number is preferred).

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Maria Nuzzolillo
Supervisory Patent Examiner
Technology Center 1700

A handwritten signature in black ink, appearing to be 'M. Nuzzolillo', with a stylized, flowing script.